DOCUMENT RESUME

ED 383 573 SE 056 543

TITLE Project Activities.
INSTITUTION National Energy Education Development Project, Reston, VA.
PUB DATE [94]
NOTE 14p.
AVAILABLE FROM NEED Project, #414, 1920 Association Drive, Reston, VA 22091.
PUB TYPE Guides - Classroom Use - Teaching Guides (For Teacher) (052)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Community Education; Elementary Secondary Education; *Energy Education; *Interdisciplinary Approach; *Learning Activities; Science Education
IDENTIFIERS *National Energy Education Development Project

ABSTRACT

This booklet contains instructions for 10 activities that can be used during a designated NEED (National Energy Education Development) Week. The activities are designed to educate students about energy and to involve students in educating the community about energy. The activities include: (1) establishing an energy information resource center; (2) prompting all teachers to teach at least one energy-enriched lesson; (3) creating energy education placemats for area restaurants; (4) publishing an energy newspaper for distribution to students and the community; (5) prepare and present an energy lesson to a group of students; (6) prepare an energy time capsule which shows the role of energy in today's world and its predicted role in the year 2000 or beyond; (7) having students learn the basics of media contact and broadcast energy information to the public via a local radio station; (8) encouraging intergenerational communication by publishing an energy publication for the elderly in the community; (9) attracting interest to NEED Week activities and to energy education by coupling famous personalities with an energy message; and (10) conducting a mock Senate Hearing on a controversial energy issue. (LZ)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Project Activities

ED 383 573

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Mary L. Spruill

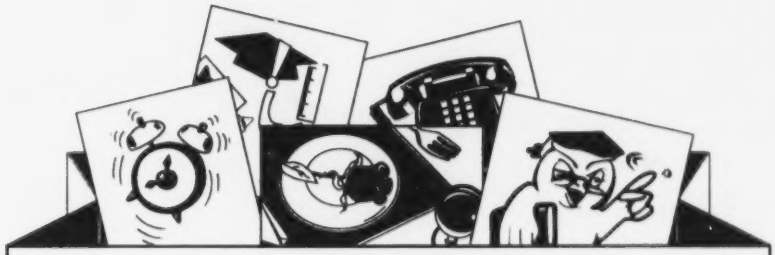
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

BEST COPY AVAILABLE

SE056543

ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES
ACTIVITIES

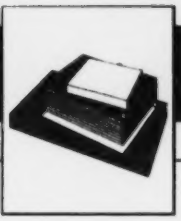
Project Activities



CONTENTS

Energy Resource Center 2
Promoting Energy Lessons 2
Energy Placemats 3
The Energy Times 4
Adopt A Class 5
Energy Time Capsule 6
Energize Your Local D.J. 8
Energy Past And Present 10
Energy Tip Hot Line 10
The Senate Energy Hearings 11

Produced by
The National Energy Education Development Project



ENERGY RESOURCE CENTER

GOAL

To establish an energy information resource center for books, magazine articles, pamphlets, and other related materials.

BACKGROUND

One of the best services a school's NEED committee can offer teachers and students is a comprehensive energy education resource center which can support NEED programs and activities in your school or community for years to come.

HOW TO ORGANIZE

1. Check to see if your school library already has a collection of energy education materials. If it does, work with the librarian to determine whether the materials are current and whether the collection is comprehensive, i.e., do the materials cover most energy issues and viewpoints?

   Determine what energy education materials are available in your community libraries and find out how to check out materials from all the libraries.

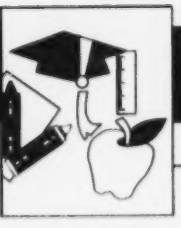
2. Begin collecting additional resources. Take advantage of materials available from state and local agencies, utility companies, and energy-related businesses in your area. You can find these organizations in the telephone book.

   For more up-to-date materials consult the Readers' Guide to Periodical Literature, a magazine index which—depending on your library—may be on microfiche. When you find energy-related articles, make a copy of them for your resource center. Don't overlook audio-visual resources like movies and filmstrips.

3. People who are knowledgeable about energy may prove to be the most important resource for any NEED project. Keep a list of people in your area—congressmen, university professors, business people, shop-owners, parents, teachers—who are experts in some field of energy or energy conservation and who are willing to help your NEED committee in energy-related activities.

4. Once you have collected your brochures, articles, and other materials, organize them into files by topic, such as acid rain, conservation, oil prices, energy experts, etc. Categorize the materials by topic, grade level, and discipline. The final list should also indicate where the materials can be found, i.e., your resource center, school library, or local library. Update your resource center on a regular basis. It should be updated at least once a year. Distribute a revised resource listing as necessary.

5. Inform the faculty and participating students about the energy education resource center. This can be accomplished during a faculty meeting or over your school's public address system. Be available to give assistance as needed.



PROMOTING ENERGY LESSONS

GOAL

To prompt all teachers to teach at least one energy-enriched lesson during NEED Week.

BACKGROUND

This activity is designed to involve all the teachers at your school, no matter what their discipline, in NEED. Your job will be to encourage teachers to teach an energy lesson and to collect energy education materials for teachers to use.

HOW TO ORGANIZE

1. The first thing you need to do is obtain permission from your principal to conduct this activity. Set up a meeting with your principal to discuss your plan of action. During the meeting, give the principal a written plan as well. The following steps will give you some ideas on developing a plan.

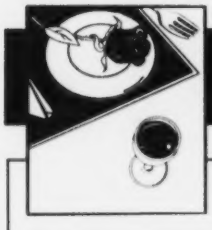
2. Start locating energy education materials and resources for teachers to use. If your school has an energy education resource center, start there. If it doesn't, you can write or call local utility companies and your state energy office for assistance. Just be sure to give yourself plenty of time to get the materials together.

Once you've collected some energy materials, review the materials and sort them into subjects (English, science, home economics, etc.) and grade levels. If you discover that educational materials for some subjects or grade levels are hard to find, work with the teacher to develop an appropriate lesson plan or help him or her line up a guest speaker.

3. Encourage teachers to present an energy lesson during NEED Week. Several promotional ideas are listed below:

   - Design posters promoting energy-enriched lessons and put them in the teachers' lounge or work rooms.
   - Place a memo in teachers' mailboxes explaining NEED Week and asking teachers to participate in NEED by teaching energy lessons.
   - Make a presentation at a faculty meeting about NEED Week and about the materials you have ready for teachers to use. Be creative in your presentation. For example, present a scene from the NEED play or an Energy Rock Performance.
   - Speak enthusiastically to teachers on an individual basis about your program.
   - Offer incentives for teachers. Give away coupons for free car washes or lunches, or ask local merchants to offer special discounts at their stores for teachers who participate.
   - Give teachers NEED buttons, T-shirts, or other items as rewards for teaching energy lessons. Create Certificates of Appreciation or "I'm a Teacher in NEED" buttons for participating teachers.
   - Hold a special luncheon for teachers who participate.

4. After the NEED celebration, evaluate your program to see if your goals were met. Talk to teachers, or pass out an evaluation form for each to complete.



ENERGY PLACEMATS

GOAL

To create energy education placemats for area restaurants to use during NEED Week, on NEEDay, or anytime.

BACKGROUND

In this activity, you'll be designing a placemat to educate your community about energy and about NEED. Making energy placemats is a creative and educational activity for all students. However, this activity takes some advance planning. Restaurant managers will want to see a sample of your NEED placemats before making a commitment to use them, so be prepared to have your students go to the drawing board about two months prior to NEEDay.

HOW TO ORGANIZE

1. Decide what you want people to learn about energy from your placemat. Some things you might consider are:

   - Which energy sources are renewable and nonrenewable.
   - What five major sources of energy are used today to generate electricity in the United States.
   - Four ways to save energy at home.
   - Three historical facts about energy.

2. Now you are ready to design your placemat. To make the placemat fun and informative, choose a variety of activities such as crossword puzzles, jumbles, find-a-words, graphs, and trivia (Energy's Believe-It-Or-Not). When designing your placemat, keep in mind that it should be attractive and informative. Leave space on your placemat to acknowledge a restaurant's or printer's sponsorship.

3. Get an estimate of how much it will cost to print your placemats so you'll know how much to charge the restaurants that use them. It's a good idea to speak to several printers to get the best price. You may find a printer to donate the cost of the printing in return for acknowledging the printer's sponsorship on the placemat.

4. Contact the restaurant managers in person and explain to them what NEED and NEEDay is all about. Show them your sample placemat and give them an estimate of how much the placemats will cost. Be prepared to leave a sample and a written proposal outlining your expectations, including the date you need an answer.

5. As the deadline nears, make a reminder call. Once your orders are in, get everything ready for the printer. To avoid mistakes, make sure your directions are clear. When the placemats are ready, deliver them to the restaurants several days before NEED Week or NEEDay, if possible. You may want to visit the restaurant on NEEDay to photograph the placemats in use.

THE ENERGY TIMES

GOAL

To publish an energy newspaper for distribution to students and the community during NEED Week.

BACKGROUND

An energy newspaper can serve many purposes. It can preview upcoming events and prepare students and adults for NEED, or it can review the year's NEED celebration in a special single issue. Producing an energy newspaper is also a good way to sharpen your research and writing skills while learning about energy at the same time.

Another option is to involve your regular school newspaper in your efforts. Talk to the school editor about including an energy/NEED column in each issue or doing a one-page spread or pull-out section on NEED during NEED Week. The steps outlined below will help you undertake a cooperative effort with your school newspaper.

HOW TO ORGANIZE

If you are planning to promote NEED and any energy education activities your school has organized for NEED Week, you should be ready to distribute your newspaper at least five to ten days before NEED Week. This means you should begin working on your paper or special columns, etc., by early January. This will give you enough time to produce a newspaper or a special supplement that you will be proud of.

1 Brainstorm articles you would like to include. The idea is to pique student interest in NEEDay and NEED Week events.

Here is a list of article and feature ideas to help you get started:

- an article previewing upcoming NEED Week activities such as the NEED 1995 play, *Animated Energy*.
- an article by two people who are on opposite sides of a controversial energy issue—a point/counterpoint feature.
- a story on teaching an energy education unit or lesson.
- a story about how much energy the school uses.
- an article discussing the results of the NEED 1995 Energy Education Poll or the results of your own survey.
- an interview with elderly people on how energy affected their lives when they were your age, i.e., cars, air conditioning, refrigerators.
- an article about a new (fission, photovoltaics) or an old (wind, coal) way of producing energy.
- a helpful hints column on saving energy.
- games, crossword puzzles, or energy jumbles.
- energy horoscopes, i.e., Pisces—Your car will continue to guzzle gas if you keep on idling.
- an article about a family producing or saving energy in a unique or effective way.
- profile of an energy economist, engineer, historian, or of a student preparing for an energy career.

NOTE: Steps two, three, four, and five are applicable if you are producing a newspaper/newsletter independent of the regular school newspaper. If you are working with the regular newspaper staff on a special column, insert, or independent issue, follow their procedures.

2 Decide who your audience will be. Will you limit distribution to students and teachers in your school, or will you distribute it to the community as well?

Next, decide how you will distribute your newspaper. If you're going to distribute it only at your school, you can distribute it in a class that all students attend—English class for example. If you're going to distribute your paper throughout your community, you can distribute it through the local library, grocery stores (clerks could put a copy in customers' grocery bags), newsstands, or newspaper carriers.

3 Determine how much it will cost to publish your energy newspaper. Here are some items you should consider when developing a budget.

- How many newspapers will be needed?
- Will the newspaper be produced on a copying machine or by a local printer?
- Will the newspaper be printed in one or more colors?
- Will the newspaper contain photographs? (Consider film, developing, and printing expenses.)
- What color and quality paper stock will be used?
- What supplies will be required to prepare the newspaper to go to press?

4 Establish a plan for obtaining the money or services to publish your newspaper. There are several options you may choose, or you may choose more than one method. Whatever plan you choose, make sure you get permission from your teacher or principal before you proceed.

The first option is to speak with your principal or teacher advisor. Ask if your committee could make use of special discretionary funds that might have been set aside for such an endeavor. If not, then consider the following suggestions.

Contact a local company or business about sponsoring your newsletter. Approach the owner or manager of a business that has an interest in energy or a history of supporting worthwhile educational activities. Once you've developed an outline of your newspaper's contents and a budget, meet with your potential sponsor to further explain the items on your outline. Give your potential sponsor a letter covering the same points you discussed in your meeting and a copy of your budget. It's also very important to tell potential sponsors that acknowledgment of their sponsorship will have a prominent spot in your newspaper.

You can also ask a company if it would print your newspaper in its shop or by its printer. In addition, the company might be willing to provide funds for the other expenses related to producing a newspaper.

Another option is to sell advertising space. You can ask advertisers to offer discounts to patrons who bring an ad or coupon in with them, i.e., discounts on a tune-up or oil change, coupons for energy-efficient appliances. (These discount coupons might also encourage students to take the newsletter home to their parents, making it more worthwhile for businesses to buy advertising space in your paper.)

Still another option is to obtain several sponsors. It will be easier to raise the funds to produce your newspaper if the cost is divided among several sponsors.

(5) Writing and producing your newspaper is the next order of business. You'll need to assign certain students to write stories and others to produce the newspaper. A description of these responsibilities is given below.

Reporters—Once you have decided on the stories you would like to cover, assign a reporter. Your journalism teacher may offer some good points on writing a news story.

Production Committee—Decide on the format for your newspaper. How many pages will it be? How many columns per page? What will you call the newspaper? What will you use for a masthead? If you want to add graphics to your newspaper, have a talented student do some pen and ink drawings or cut out art from NEED publications. If you use art from other publications, make sure there is no copyright infringement.

Once the articles are typed up in the proper column width, the newsletter can be pasted up. Consult you school's journalism department or art department if you need help in this area.

TIPS

1. Put "punch" and enthusiasm in your writing.
2. Keep your newsletter simple in design and scope.
3. Use an organized and attractive layout style to capture the reader's attention.
4. Use artwork sparingly and with purpose.
5. Avoid handwritten newsletters—always have them typed.
6. Use colored ink if your budget will allow it.
7. Keep the stories concise and the paragraphs short for easier reading.
8. Always proofread your work carefully. Do not allow typographical errors to mar your publication. Have at least two people proofread your newspaper.

ADOPT A CLASS

GOAL

To prepare and present an energy lesson to a group of students.

BACKGROUND

For this activity, a group of students "adopts" a class, develops an energy lesson, teaches the lesson, and then evaluates the lesson to see how well it communicated the energy information to the adopted class.

HOW TO ORGANIZE

(1) Decide what grade level you want to teach. In addition, don't feel that you have to teach your NEED lesson to a science class. Be creative, try teaching an energy lesson to a French, math, or other class.

(2) Decide exactly what you want your adopted class to learn from your energy lesson. Some sample lesson objectives are given below (choose one or two). Upon completion of the energy lesson, the students will be able to list:

- which energy sources are renewable and nonrenewable.

- the five major sources of energy used to generate the nation's electricity.
- the major ways of saving energy on the road (or at home).
- four historical facts about the use of energy.

You may choose one or two of the above objectives for your lesson or develop your own. Be realistic; you can't achieve four or five objectives in one lesson, especially with very young children.

(3) Discuss ways to communicate your lesson to your adopted class. Remember younger students generally have shorter attention spans than older students. Come up with your own lessons or use a NEED activity or game.

One method of teaching young children about energy is to do a puppet show. Other ideas include developing an energy game show, performing a scene from the NEED play, or playing an energy game.

Another possibility is to hold a Spelling "E." A Spelling E is similar to a regular spelling bee except that all the words deal with energy. To organize a Spelling E, develop a list of energy words and then place them in categories according to spelling difficulty. Use the easier words first in your Spelling E and the more difficult ones later.

You may also develop a more traditional lesson plan that uses handouts or an overhead projector. Another good source for lesson plans is the NEED *Games and Icebreakers* booklet. Ask your teacher about this booklet if you don't already have it.

Research the topic or topics you will be teaching so that you know the information extremely well. Reviewing energy education materials, viewing videotapes, and hearing speakers discuss a topic are all good ways to become knowledgeable about your subject.

Remember, you must understand your topic thoroughly before you can teach others about it.

ENERGY TIME CAPSULE

GOAL

To prepare an energy time capsule which shows the role of energy in today's world and its predicted role in the year 2000 or beyond.

BACKGROUND

This activity gets you and your community to look at the future of energy in the United States. Your mission will be to collect energy-related items for burial in a time capsule. The items you collect will relate the role of energy in today's world and predict its role in the future. A formal burial ceremony will be the grand conclusion to this informative and fun activity.

HOW TO ORGANIZE

(1) Set a target date, perhaps National Energy Education Day, for the burial of your time capsule and accompanying ceremony. You will need to get permission for the ceremony as well as a location for the burial of your time capsule from your school principal early in the planning stages for this activity.

(2) Gather your resources and begin your research. You can use your own energy education materials, or you can use materials from a library, the Department of Energy, or Congressional testimony.

Interview local energy experts from business, government, or universities. Arrange for a speaker to address your group during your preparation period or invite several speakers from different fields to make a panel presentation to your group or the entire school. Ask the energy experts what their opinions and predictions are for the year 2000, or whatever year you have chosen to unearth your capsule.

Here are some general topic areas you might consider:

- the price of a barrel of oil, a gallon of gasoline, the cost of a kilowatt-hour of electricity, or the cost of a thousand cubic feet of natural gas...today and in the future;
- the best, worst, and average MPG ratings for new cars today and in the future, types of fuels used today and fuels of the future;
- the top nine sources of energy and their present and projected usage, the per capita energy use of the average American;
- foreign petroleum imports, domestic production, off-shore drilling, political and economic implications (present situations and in the future);
- nuclear energy, number of existing plants, current and projected, nuclear waste disposal issues, sites, etc.;

- air pollution levels, today and future predictions, environmental issues;
- energy efficiency in today's homes (appliances, heating systems, etc.);
- waste management, recycling, modern landfills, (present and in the future);
- energy usage by each of the four sectors of today's economy—today and projected.

3 Once you've completed your research, start preparing the items that you want to put in your time capsule. Brainstorm a list of 40 or more items. Then reduce your list to 20 items and begin working on these. The five descriptions below will give you a better idea of what you can prepare for your time capsule. Remember, they all have to fit into your capsule!

The following is a list of suggested items for your time capsule:

- Make a pie or bar graph that shows how much energy each major source of energy currently supplies the United States. Make a similar graph for the year 2000 (or year of your choice). The 2000 graph may differ in size depending on the amount of energy the U.S. is expected to be using at that time. The size of the sections of the graph may also differ as different energy sources may become larger or smaller suppliers of energy in 2000. In each section of the graph, include the percent of total U.S. supply and the amount of energy in quads or the appropriate unit for that energy source.
- Create a poster that shows two barrels of oil drawn to scale. Under the first barrel write 1993 and under the second write 2000. Shade the barrels to show how much oil is supplied by domestic production and how much by imports. In the import section for the barrels, you could write in the names and amount of oil supplied by the top five sources of foreign oil. In the domestic portion of the barrels, you could use two shades, one representing offshore production, the other onshore.
- Obtain several Energy Efficient Rating (EER) labels for commonly purchased home appliances like hot water heaters, refrigerators, washers, and dryers. Make two copies of the labels for each appliance. Keep one label as it is, but on the other cross out the 1994 (or 1993) figures and replace them with your own predictions. You can do the same with the MPG ratings found on the window stickers on new cars or from car advertisements in magazines.
- Tape interviews with energy experts, asking them for their energy predictions for the year 2000.
- Try to think of other items that you can include in your time capsule that will tell those who unearth it in the future a little about today's energy production and use. For example, if electricity in your area now costs eight cents a kilowatt-hour, you might put eight cents in an envelope, or you might put in the amount you think a kilowatt-hour of electricity will cost in 2000. You could also include copies of electric bills, photographs of gasoline pumps or signs showing the price of gasoline, sales brochures for appliances, etc.

4 Obtain a small, waterproof container to use as your time capsule. Ask local businesses, industrial arts classes, or a sheet metal firm to donate a capsule.

5 Arrange an official burial ceremony for your time capsule. Prepare a ceremony agenda and send invitations to local officials, guest speakers, school officials, students, newspapers, and radio and television stations. Also, select one student at this time to act as the host.

Invite your guests to arrive early to view the items that will be sealed in your capsule. For a really festive touch, serve your guests refreshments during this time too.

At the beginning of the actual ceremony, have the student host introduce your burial project. Ask a guest speaker to address the audience at this time. Then have students place the items into the capsule, each giving a 10-15 second speech about their item. Just before the capsule is lowered into the ground, the host can give a short speech that summarizes your energy predictions.

6 Record the burial in the school records. Include a documentation file with photographs of the event, a list of the items enclosed in the capsule, the names of the student participants, a location map of the capsule, notes from the interviews and speeches, and any publicity clippings. Add a reminder for the unearthing ceremonies and assign specific class members to follow through on that aspect of the project (an excellent event for a five or 10-year reunion), or assign first- or second-graders to unearth the capsule when they are high school seniors.

NOTE: A great resource to help you with your research is the U.S. Department of Energy's Annual Outlook with Projections to 2010. Your school librarian can order this booklet for free! Just ask him or her to write to the following address:

National Energy Information Center
EI-20 Energy Information Administration
Forrestal Building-Room 1F-048
Washington, DC 20585
(202) 586-8800

ENERGIZING YOUR LOCAL D.J.

GOALS

To have students learn the basics of media contact as well as gain an understanding of the workings of their local radio station.

To research and learn about at least one energy topic.

To broadcast energy information to the public.

BACKGROUND

Energizing Your Local D.J. can be used as a full class activity or a small group activity. If the full class participates, divide the students into groups of three to four. Each group will then have a different topic for research and writing.

It is best if the students approach the radio station about the activity. The station should be notified at least a month in advance; six weeks is preferable. At a minimum, most stations will agree to carry the public service announcements, and possibly use some of the stings and teasers. The chance that a station will use the students' material is increased if the activity is timed near NEED Week in March, Earth Day's anniversary, or other calendar events. Ideally, you would like the station to use your material over a whole week. For example, if the entire class is divided into five groups, the station could use one group's topic a day. Find out how flexible the station can be.

HOW TO ORGANIZE

(1) Choose an energy topic. One suggested topic, Aluminum Recycling, will be used throughout these directions as an example of the various options available. Other suggested topics are conservation in the home, conservation on the road, plastics recycling, waste management, and auto maintenance.

The emphasis of this activity is on reaching and educating the public. Therefore, try to choose a topic that the average person can relate to and do something about. Aluminum recycling is a good topic because it affects nearly everyone, and everyone can do something simple to help. No matter which topic you choose, make sure that a large audience can relate to and use its information.

(2) Research your topic. There are several sources for research available.

***Energy Exchange* magazine**—Ask your teacher for back issues of NEED's magazine. Every issue contains informational articles on a variety of energy topics.

Local experts—There may be people in your community who can give you information. For example, if your topic is conservation in the home, your local utility company usually has pamphlets or other materials that can help. Check local recycling centers for information on recycling. Also, check your Yellow Pages.

Local or school libraries—Basic reference materials such as encyclopedias are a good background source. Also read specific books and pamphlets on the topics you are researching.

The Reader's Guide to Periodical Literature—This guide will help you find recent magazine articles on your topic and current information and interesting statistics that might help people visualize your topic and motivate them to help.

For example, in the case of Aluminum Recycling, some examples of interesting statistics would be: Each recycled aluminum can saves the equivalent of one cup of gasoline; or out of every 100 cans, 64 are recycled; or every year Americans throw away enough aluminum to rebuild the entire American Airlines air fleet 71 times.

★ You will need approximately 15 to 20 statistics/facts. Write all these down and make copies for everyone in the group. Hand a copy in to your teacher as well.

(3) Put your information into a form that will work well on radio. Below are some basic suggestions, but take some time to talk about other ways in which your information can be used.

"Stings" and "Teasers"—These are short, one sentence, "Did you know" messages. Use some of your most shocking/interesting facts here. For example, "Did you know that every recycled aluminum can saves enough energy to burn a 100 watt light bulb for 3.5 hours? Over the course of a year, this saves 120 kilowatt-hours of electricity or 100 pounds of coal." The radio station can use these in many ways—just before a station break, in between commercials, or even worked into the D.J.'s normal patter.

Public Service Announcements—These PSAs are simple short messages about how people can help. They should be fully written out, and may vary in length, such as 30 seconds, 45 seconds, and 60 seconds. These can involve many facts, or one or two important ones. The radio station will use these mixed in with its normal commercials. The following is an example PSA for the Aluminum Recycling unit:

Would you ever throw away six cups of gasoline without thinking about it? That is what you do every time you throw away a six-pack of aluminum cans.

Hello. My name is _____, *and I would like to talk to you about something that you can do*

to help save our environment. I'm talking about recycling aluminum. It's easy, it's free, and it helps our country, our environment, and our planet. You see, recycling an aluminum can saves 95 percent of the energy necessary to make a new can. In other words, recycling a can saves the equivalent of a cup of gasoline every time it is recycled—and aluminum is always recyclable.

So please help conserve energy. Already 64 out of every 100 aluminum cans are recycled—but it could be more. The next time you start to throw away a can, stop and think.

Thank you. This has been a public service announcement of (station call letters).

OPTIONAL: It may be possible for you to get local celebrities to do these PSAs for you. If you have a local celebrity, approach him/her about helping you. Most celebrities do PSAs all the time, and will be willing to help.

Trivia Contests—Radio stations frequently run trivia contests about various subjects. You can turn your topic into a trivia contest by phrasing some of the more interesting facts as trivia questions. For example, "What common recyclable metal was considered more precious than gold 150 years ago?" Answer: "Aluminum." You may wish to contact local businesses about providing prizes for these trivia contests.

Call-in Talk Shows—If your local station has a call-in show or a talk show, one of the more controversial areas of your topic might make an interesting show. For example, "Should (your state) pass (or repeal) an aluminum can deposit bill?" is a good question that can be adapted to either a call-in or talk show format. Ask the station whether they have a show that can use these ideas.

★ Turn in a list of the group's best ideas to the teacher.

4 You may want to ask the station for a guest D.J. hour. One person from the group might be able to get some time—15 minutes, 30 minutes, possibly even an hour—to actually be the D.J. for the station. The student D.J. needs to be someone with a clear speaking voice and other good radio mannerisms. Above all, he/she should not be too nervous about the job.

5 Program the D.J.'s time slot. There are a number of things you can use to fill your time slot.

Music—Look for songs that in some way relate to the topic you are discussing. For example, if your topic is about renewable energy, you can use "Here Comes the Sun." Take into consideration the type of music the station usually plays. For example, you probably shouldn't chose a rap or heavy metal song for an "easy listening" station. Remember, any songs you choose must be cleared by the station's Program Director. Of course, your group could write and produce its own music. This is especially recommended for topics like aluminum recycling where there is not likely to be much music available. See the activity *Great Energy Rock Performances* for more ideas and details.

PSAs—You should have these written already. There should be no more than one PSA every ten minutes of air time, and this may still be too often. Don't overdo the PSAs.

Stings and Teasers—Once again, these should already be written. Do not overdo these either.

Talk show or call-in shows—This is probably one of the better uses of your radio time. You can simply declare the phone lines open, and take listeners' calls at any time; or, you can set aside a block of time to have people call in. Remember, you cannot always count on people to call in, so have other material available if no one calls. It is also possible to plan for a guest on a talk show—you can use a local expert who helped you with information during your research, or anyone else who would be willing and interested.

Other—The radio station may require that you run a certain number of station identifications, or perhaps even advertising during the show.

★ It is not necessary to script the show word for word, but a minute by minute script will be very helpful. After the group is finished with the script, hand it in to the teacher. The script will also need to be given to the station's Program Director.

6 Final preparations of the material need to be completed. All the stings and teasers should be neatly typed and understandable. The PSAs must be recorded or ready to be recorded. Anything else that the radio station needs should be given to them in a neat and legible form.

★ Hand in all your materials to your teacher.

7 Now that your radio station is ready to support you, it's time to support your radio station. Make sure that everyone in the community is aware that the radio station will be carrying your material. This can be done in several ways. Ask your principal to make an announcement to the entire school. Have all the students at your school tell their parents, brothers and sisters, and other friends. If your group supports the radio station, they will be more likely to do this in the future. Make sure that everyone you can get in touch with knows about the station's effort. You may want to write the station a thank-you note from the group or class.

ENERGY PAST AND PRESENT

GOALS

To publish a creative and personal energy publication for distribution during NEED Week.

To involve older members of the community in energy education and to develop a dialogue between today's generation and those of yesteryear.

BACKGROUND

The activity is appropriate for grade levels 5 - 12 and fits in well with a social studies, English, or creative writing curriculum. The end result can be a published booklet, a school generated Xeroxed booklet, or a series of articles in the school and community newspapers.

HOW TO ORGANIZE

1. Brainstorm a list of energy uses—examples include transportation, farming, cooking, leisure, etc.

2. Divide students into small groups of three to five. Each group chooses or may be assigned one area to study.

3. Students research how energy is used TODAY in their particular area of study. Allow several days for research depending on class time and availability of materials.

4. Students interview older members of the community to discover how energy was used when those members were young. Suggestions:

   - Each group is responsible for five to ten questions to be asked of their guests. For example: How was your home heated when you were a child? Where did the fuel come from? How were you involved in getting the source-to your home? In the case of wood, how much time was devoted to preparing this energy source. What was the heating system like? How effective was it?

   - Invite older community members to speak to the class as a whole with each group asking specific questions. Invite grandparents or call a local home for the elderly. If they can't travel to school, have small groups travel out. Or, interview individually. Take good notes and/or tape the interview to listen to later.

   - Check out NEED's *Yesterday in Energy* activity for more ideas.

5. Review notes and write a straightforward news article comparing the energy use today with its use in years past. Or, write short stories, skits, or plays comparing today's and yesterday's use.

6. Compile results in a booklet. Design an eye catching cover and think about using photos. If time and budget allow, contact a printer. Or, use the school copy machine. If publishing is out of the question, work with your school's newspaper to include a weekly column or a special segment.

Energy Past and Present is based on a project idea submitted by Dinwiddie County Middle School in Virginia.

ENERGY TIP HOT LINE

GOAL

To attract interest in NEED Week activities and in energy education by coupling famous personalities with an energy message.

BACKGROUND

In advertising, everyone recognizes the value of pairing a famous face with a product. This activity draws upon this fact and uses it to promote energy education messages. The person may be someone very famous (i.e. former President Ronald Reagan was invited and agreed to be one of the personalities in Schaumburg, Illinois) or a local radio or TV celebrity, school superintendent, the mayor, etc. Students in grades 5 - 12 would be suitable candidates for this activity.

HOW TO ORGANIZE

1. Brainstorm a list of potential personalities.

2. Develop a lead/introduction that each personality could deliver prior to a student's energy message. (For example: Hello! This is _____. You've reached the NEED Hot Line. NEED stands for the National Energy Education Development Project. NEED Day will be celebrated this year on _____ by the students at _____. Listen carefully to the following messages. Thank you.) A pre-recorded message by a student or students would follow.

3. Brainstorm, prepare, and record a series of messages to be delivered by students. For example: "Did you know that by recycling three aluminum cans a day you save one kilowatt-hour of electricity?"

Switch your answering machine to only play back your message. You do not want to allow a caller to leave a message.

4. Send letters of invitation to each person on your list along with blank cassette tapes and postage paid return envelopes. Explain who you are and your goals in this activity. Ask them to record the lead (provide them with a script) and to return the recorded lead to you by a specific date. Be sure to follow up later with thank-you letters.

5. Get someone to donate a telephone line to be used exclusively for the Hot Line message. Check with your local telephone company, a local business, or your school system.

This activity idea was submitted by Mrs. Karen White, Hoover Elementary School, District 54, Schaumburg, Illinois.

THE SENATE ENERGY HEARINGS

GOALS

To conduct a mock Senate Hearing on a controversial energy issue.

To develop students' cooperative, research, decision-making, and public speaking skills.

BACKGROUND

This activity is ideal for American history or civics classes, though it is not restricted to these fields. Students in grades 8-12 will gain in-depth knowledge of a controversial energy topic, an understanding of the politics and science behind national issues, and a first-hand view of how a Senate Hearing is conducted. Each Senate Energy Hearing requires from five to seven students.

HOW TO ORGANIZE

1. The group should first decide on an energy issue to discuss. The best issues will be controversial and relatively timely. The following is a list of suggested topics: Offshore Drilling, Energy Development in the Arctic National Wildlife Refuge, Alternative Motor Fuels, Nuclear Energy, and Corporate Average Fuel Economy. There are other energy issues that are suitable—look at the opinion questions on NEED's Energy Education Poll for more ideas.

   Once a topic is chosen, the group will need to research its topic. Reference books are the best place to start. Once the group has a solid foundation of the facts and history surrounding the topic, it will need to understand the current issues. There are several sources a group can use.

   The Reader's Guide to Periodical Literature—This reference work will help you locate recent magazine articles on the group's topic. Ask a librarian for more help.

   ***Energy Exchange* magazine**—If your school has been a member of the NEED project for any length of time, copies of the magazine should be available. Many past issues feature Point/Counterpoint articles written by members of Congress with opposing viewpoints, as well as good informational articles. For example, in the Fall 1989 edition, Senator Metzenbaum (D-OH) and Senator Nickles (R-OK) discuss their opposing views on CAFE.

   Local energy experts—Chances are, there are people in your area who do not view these issues as purely academic. There are people who work in the energy business, whether they are from your local utility company, your state energy office, a local college or university, or elsewhere, who are probably willing to at least speak to students over the phone about these energy issues.

   Local Congressional offices—In addition to the local office of your U.S. Representative and Senator, your state Congress can be a useful source of information. Most politicians have a stance on energy issues and might be willing to talk to students about them. To be on the safe side, contact these offices about two to four weeks before your "hearing." If nothing else, these offices may be able to provide testimony from an actual Senate energy hearing.

★ You will probably need to photocopy and/or check out reference books and magazines. Show these to your teacher along with other notes that you have made during your research. Prepare an issue outline of your topic. Summarize each argument in the issue—one half to one page in length.

   OPTIONAL: You may want to use actual energy experts as expert witnesses for the hearing. One or two can serve. If you can obtain two, try to have them from opposing sides of the argument. These people need to be contacted three to four weeks in advance of the hearing. Many experts will welcome the chance to share their viewpoints with the class.

2. Now that you have done the bulk of your research, the group needs to talk about regional differences in senators. The home state of a senator may help determine how he or she feels about an issue. For example, a senator from California will probably feel differently about offshore oil drilling than a senator from Iowa. The Californian would have to deal directly with offshore drilling, while the

Iowan would not. Remember that a senator wants to protect his home state and its people. A senator from Michigan (whose economy is dependent on the car industry) would probably oppose any laws that could damage the car industry. Make sure that you consider a wide variety of states and senators.

3 After your group has talked about the regional and political differences in senators, you need to decide which senators from which states will serve on the hearing panel. As many as five senators can serve—four on the panel and one chairperson. No matter how many senators you have, one must serve as the chairperson. If you have more than five people in the group, the others will be energy expert witnesses. It is best to have at least one expert witness.

Now decide who each person in your group will represent. Write down who will be the senators, including their home states and party affiliations (for example: Don Harrison will be Senator Harrison, (D-CA). If you have expert witnesses, determine how they feel about the issue and give them a "job." For example, if you have an expert witness in favor of the oil industry, give him or her a title and a job with an oil company like Acme Oil. If the expert witness is an environmentalist, say that he or she is from the Birkenstock Environmental Club, or another group. Make sure everyone understands which side of the issue he/she will be presenting. This should be as even as possible. A group of six people (one expert witness and five senators) should be able to present every side on any issue.

★ When you have completed your list of senators and witnesses, hand it in to your teacher.

4 At this point, senators and expert witnesses who share the same viewpoint on an issue may wish to work together in order to present an effective argument on that issue. Remember, however, that you are not trying to beat the other group in a formal debate. You are trying to present the facts to the audience.

Every member of the group will need to write a one to two minute opening statement that expresses his or her viewpoint. In addition, all the senators must write two questions for each expert witness who will be testifying. These questions should be chosen to support the viewpoint of the senator. For example, a senator who supports offshore drilling would not ask an expert witness to describe the possible environmental damage from that drilling.

When the senators have finished their questions, the questions should be given to the expert witness(es) so they can prepare their answers. If you are using adult witnesses, send them the questions so they can prepare answers.

★ Hand in the opening statements, questions, and answers to the teacher.

5 Prepare any posters, charts, graphs, slides, or short videos that can enhance the hearing. Expert witnesses can use these to describe their viewpoints; senators can use them to illustrate an argument. If you need equipment like a VCR or projector, ask your teacher about obtaining it.

6 Your group should now have written all the major parts of the hearing. Put everything together in script form, rewriting any parts if necessary. The script should progress more or less as follows. The chairperson should call the hearing to order, introduce himself or herself, and then introduce the other senators. Then, alternating by opinions, the senators should give their opening statements. The chairperson should introduce the (first) expert witness, and then the senators will in turn ask the questions. If there is another expert witness, the chair should introduce him or her, and then the senators will question that expert witness. Finally, the chairperson will motion for the hearing to end. Each senator will give a small (about one minute) closing statement, and then the hearing will be adjourned.

★ Hand in the final script to the teacher.

7 Decide what props you'll need for the hearing. These should be relatively simple. You will need a table or two for the senators and a table for the expert witnesses. Place cards for everyone will help the audience understand who is involved. If the hearing is to be held before a large audience, microphones would be helpful. If you do use microphones, make sure all the members of the group practice speaking into them and are comfortable with their use. Finally, a gavel for the chairperson to use during the hearing makes a nice touch.

8 In the time remaining, rehearse your script. It is important to time the hearing. If it is running only 15 minutes, it is too short. The hearing should last about 30 to 50 minutes. If your hearing is too short, add more detail to the questions and answers. If it is too long, take out some details.

It is best if all members of the group memorize their parts as much as possible. It is certainly okay to refer to notes during the hearing, but reading directly from the script should be avoided.

If time permits, run through the hearing one or two times. It is very helpful to have your teacher or another student group watch a practice session and then make suggestions. During these rehearsals, you should also make suggestions to other members of the group--just don't be overly critical. Here are some things to watch for during the rehearsal:

- Can you hear and understand everybody?
- Does everyone know his or her part?
- Is the hearing lively?
- Are all viewpoints fairly represented?